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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,808	03/26/2004	Boris A. Maslov	544092000300	7953

25227 7590 02/22/2006
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EXAMINER

COLON SANTANA, EDUARDO

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,808

Applicant(s)

MASLOV ET AL.

Examiner

Eduardo Colon Santana

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 2 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 07 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: Detailed Action.

DETAILED ACTION

1. Applicant's amendment filed on 11/07/2005 have been received and entered in the case.
2. Applicant's amendments with respect to the claims have been considered but are not persuasive.

Drawings

3. The replacement sheets of drawings of figure 2, 8, 15 and 16 were received on 11/07/2005. These drawings are acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu JP Patent No. 2002186120 A.

Referring to claim 1, Shimizu describes a controller for electric automobile (see figure 1 and respective portions of the specification). Shimizu further depicts from figure 1, an electric vehicle controller for one or more in wheel adaptive electric motors (30-37), having their own motor controller (2-5), which independently control its electromagnetic circuits (phases) through independent power circuits (inverters 10, 10'; 11, 11'; 12, 12' and 13, 13'), which energizes each electromagnetic circuit independently therefor

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eliminating electromagnetic and electrical interference between the circuits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu JP Patent No. 2002186120 A and Hsu U.S. Patent No. 6,380,648 and further in view of UQM Technologies.

As to claim 2, Shimizu discloses in figure 7, the basic structure of the electric power vehicle used in his embodiment in which at least one electric motor (101) is depicted being an in-wheel motor. Shimizu additionally discloses an adaptive controller for the electric vehicle wherein each motor has its own motor controller (2-5), which independently control its electromagnetic circuits (phases) through

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independent power circuits (inverters 10, 10'; 11, 11'; 12, 12' and 13, 13') which energizes each electromagnetic circuit independently therefor eliminating electromagnetic and electrical interference between the circuits. However, Shimizu does not explicitly describe the in-wheel motor having a torque density of at least 20 Nm/kg and having a stator including a plurality of stator core elements being arranged in groups and each group being structurally and electromagnetically isolated from the stator core elements in each other group. Nonetheless, a plurality of stator core elements is known in the art as described by Hsu, which describes an in-wheel type motor structure wherein a plurality of stator core elements are arranged in groups being structurally and electromagnetically isolated from the stator core elements (see figures 1-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a stator having a plurality of stator core elements being arranged in groups as described by Hsu within the teaching of Shimizu, since Shimizu already independently controls the electromagnetic circuits (phases) of the motor providing a reduce electromagnetic and electrical interference between the phases. This would make possible the control of independent parameters, improving the efficiency of the motors.

Regarding the torque density of the motor being at least 20 Nm/kg, UQM technology depicts various examples in their product specifications regarding vehicle propulsion systems in which the torque density varies upon numerous factors as a dimensional analysis.

It would have been an obvious matter of design choice to one of ordinary skill in the art at the time of the invention to arise at the claimed torque density, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*, 617 F.2d 272, 205 USPQ (CCPA 1980)).

Response to Arguments

6. Applicant's arguments filed 11/07/2005 have been fully considered but they are not persuasive.

It is believed that the amended claims as presented do not overcome the previous rejection.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., two or more power circuits) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In regards to the amendments to claims 1, 5, 8 and 11, which recites "...electromagnetic circuits that provide power to at least one or more motor and/or generator". It is well known to one ordinary skill to have a control circuit, which controls the electromagnetic circuits (phases) so each are energized (powered) to rotate (operate) a motor and/or generator.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (571) 272-2800 X.33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eduardo Colon Santana
Examiner
Art Unit 2837

ECS
February 6, 2006



MARLON T. FLETCHER
PRIMARY EXAMINER